REMARKS

This Amendment responds to the Office Action dated October 12, 2007 in which the Examiner rejected claims 1-10 and 12-20 under 35 U.S.C. § 103.

Claims 1 and 7 claim a motion image processor, claim 9 claims a motion image processing method, claim 10 claims a computer-readable recording medium encoded with a computer program and claims 12 claims an image sensing apparatus. The motion image processor, motion image processing method, computer-readable recording medium and image sensing apparatus select motion image correction parameter values which are maintained for each frame image in a motion image until a scene change.

Specifically, as set forth in amended claim 1, a scene determiner selects correction parameter values based on a state of an image. A corrector corrects image data of the motion image based on the correction parameter values acquired by the scene determiner, and an acquiring portion acquires scene change information indicating a scene change in the motion image. When the scene change information indicates a scene change, the scene determiner selects new correction parameter values for the motion image, wherein the selected correction parameter values are maintained for each frame image until a next scene change information is acquired.

Thus, as claimed in claims 1, 7, 9, 10 and 12, the present invention can rapidly correct a motion image while reducing the amount of calculation required to correct the motion image since it uses the same correction parameters until there is a scene change. The prior art does not show, teach or suggest the invention as claimed in claims 1, 7, 9, 10, 12 and 13.

Claims 1-3, 6-10 and 12 were rejected under 35 U.S.C. §103 as being unpatentable over *Sekine et al.* (U.S. Patent No. 6,049,354) in view of *White et al.* (U.S. Patent No. 5,721,427). In the *Response to Arguments* section of the last Official Action, the Examiner refers to step S7 of *Sekine et al.* and states that MV_i and CV_{i-1} "are maintained or not changed". However, that statement is based on a misunderstanding of *Sekine et al.* MV_i represents the motion vector for a specific field i, wherein i represents the current field. CV_{i-1} represents the image correction vector of the previous field. See column 5, lines 27– 38. Accordingly, MV_i and CV_{i-1} are constantly changing for each field, and CV_i must therefore be calculated for each field. MV_i and CV_{i-1} are clearly not " maintained or not changed" as alleged by the Examiner.

Sekine et al. is directed to correctly performing image-shake correction, even when a scene change occurs. (Col. 2, line 65-67). As illustrated in Fig. 3, image correction vectors are calculated for *each* field, regardless of whether or not the field follows a scene change. See also column 5, lines 1 – 5 ("*processing performed by the microcomputer 4 during each field period...*"). *Sekine et al* does not teach or suggest that any selected correction parameter values are maintained for each frame image until a next scene change information is acquired. Accordingly, the processing steps of calculating correction vectors (as seen in steps S4, S5, and S7 of Fig. 3) are constantly occurring for each field.

In contrast to *Sekine et al*, according to the present invention, correction parameters are only calculated after a scene change, thus reducing processing resources.

Embodiment 1 in Figure 3 of *Sekine et al* discloses resetting an image correction vector CV_i to zero when a field which immediately follows a scene change so that the currently accumulated value is reset (col. 5, lines 62-65). However, the correction vectors are still calculated after each field.

Thus, *Sekine et al.* merely discloses <u>continuously calculating</u> a motion vector parameter CV_i during each field period. When the scene is changed, the calculating continues, but the base value is reset to 0. However, as claimed in claims 1, 7, 9, 10 and 12, correction parameters are selected only when the scene change information is acquired and the selected correction parameter values are <u>maintained</u> until the next scene change information occurs.

Sekine et al. teaches away from the claimed invention since the motion vector parameter is <u>continuously updated</u> for each field.

White et al. is directed to correcting image non-uniformities in an infrared imaging system. (Column 1, lines 10-12). A trigger circuit selectively enables a scene-based non-uniformity correction circuit to update the current scene-based non-uniformity correction term in response to a motion signal from a motion detector. (Column 2, lines 20-23).

Thus, *White et al.* merely discloses updating a non-uniformity correction term based upon a motion detector. Nothing in *White et al.* shows, teaches or suggests detecting scene change. Furthermore, nothing in *White et al.* shows, teaches or suggests selecting correction parameters when a scene change information is acquired and maintaining the selected correction parameter values for each frame image until a next scene change is acquired as claimed in claims 1, 7, 9, 10 and 12. Rather, *White et al.* merely discloses updating a correction term in response to motion.

The combination of *Sekine et al.* and *White et al.* would merely suggest to continuously change the correction parameters for each field as taught by *Sekine et al.,* and to update non-uniformity correction processing when motion is detected as taught by *White et al.* Thus, nothing in the combination of the references shows, teaches or suggests correcting sequential frames of a motion image based on the same selected set of correction parameter values until a next scene change occurs as claimed in claims 1, 7, 9, 10 and 12. Therefore, Applicant respectfully requests the Examiner withdraws the rejection to claims 1, 7, 9, 10, and 12 under 35 U.S.C. §103.

In the event that the Examiner maintains the rejection, the Examiner is respectfully requested to specifically point out where the applied prior art teaches maintaining selected correction parameter values for each frame image until a next scene change information is acquired.

Claims 2 - 3, 6, 8 depend from claims 1 and 7 and recite additional features. Applicant respectfully submits that claims 2 - 3, 6 and 8 would not have been obvious within the meaning of 35 U.S.C. §103 over *Sekine et al.* and *White et al.* at least for the reasons as set forth above. Therefore, Applicant respectfully requests the Examiner withdraws the rejection to claims 2-3, 6 and 8 under 35 U.S.C. §103.

Claims 4 - 5 were rejected under 35 U.S.C.§103 as being unpatentable over *Sekine et al.* in view of *White et al.* and further in view of *Horiike* (U.S. Patent No. 6,353,683).

As discussed above, since nothing in the combination of *Sekine et al.* and *White et al.* show, teach or suggest the primary features as claimed in claim 1, Applicant respectfully submits that the combination of the primary references with the secondary reference to *Horiike* will not overcome the deficiencies of the primary references. Therefore, Applicant respectfully requests the Examiner withdraws the rejection to claims 4 - 5 under 35 U.S.C. §103.

Claims 13 - 14 were rejected under 35 U.S.C. §103 as being unpatentable over *Sekine et al.* in view of *Horiike*.

As discussed above, *Sekine et al.* merely discloses <u>continuously calculating</u> a motion vector parameter. However, as claimed in claim 13, a set of correction parameter values are not changed until a next scene change. Thus, *Sekine et al.* teaches away from the present invention since the reference continuously calculates parameters until a scene is changed.

Horiike discloses a method and an apparatus which are capable of performing switching of a process for generating a prediction signal for a target image signal between a lightly loaded process and a heavily loaded process, depending upon the calculation load, when coding or decoding an image signal, thereby performing motion prediction or motion compensation with high efficiency while suppressing adverse effects on a regenerated video, and a data storage medium which contains a program for implementing image processing by the method and the apparatus in a computer system. (Col. 4, lines 57-67)

Thus, *Horiike* merely discloses performing motion prediction. Nothing in *Horiike* shows, teaches or suggests a set of correction parameter values which remain unchanged until a scene change as claimed in claim 13. Rather, *Horiike* merely discloses predicting motion.

Since neither *Sekine et al.* or *Horiike* show, teach or suggest correction parameter values which are unchanged until a next scene change as claimed in claim 13, Applicant respectfully requests the Examiner withdraws the rejection to claim 13 under 35 U.S.C. § 103.

Claim 14 depends from claim 13 and recites additional features. Applicant respectfully submits that claim 14 would not have been obvious within the meaning of 35 U.S.C. § 103 over *Sekine et al.* and *Horiike* at least for the reasons as set forth above. Therefore, Applicant respectfully requests the Examiner withdraws the rejection to claim 14 under 35 U.S.C. § 103.

Claims 15 - 19 were rejected under 35 U.S.C. § 103 as being unpatentable over *Sekine et al.* in view of *White et al.* and further in view of *Prentice et al.* (U.S. Publication No. 2003/0030729). Claim 20 was rejected under 35 U.S.C. § 103 as being unpatentable over *Sekine et al.* in view of *Horiike* and further in view of *Prentice et al.*

As discussed above, since nothing in *Sekine et al.* and *White et al.* or *Sekine et al.* and *Horiike* show, teach or suggest the primary features as claimed in claims 1, 7, 9-10, and 12, Applicant respectfully submits that the combination of the primary references with the secondary reference to *Prentice et al.* will not overcome the deficiencies of the primary references. Applicant reserves the right to challenge the Examiner's analysis of *Prentice et al.* and the motivation to combine *Prentice et al.* with the other references at a later time, if necessary and appropriate. Therefore, Applicant respectfully requests the Examiner to withdraw the rejection of claims 15-20 under 35 U.S.C. § 103.

Thus it now appears that the application is in condition for reconsideration and allowance. Reconsideration and allowance at an early date are respectfully requested. Should the Examiner find that the application is not now in condition for allowance, applicant respectfully requests the Examiner enters this Amendment for purposes of appeal.

If for any reason the Examiner feels that the application is not now in condition for allowance, the Examiner is requested to contact, by telephone, the Applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed within the currently set shortened statutory period, Applicant respectfully petitions for an appropriate extension of time. The fees for such extension of time may be charged to our Deposit Account No. 02-4800.
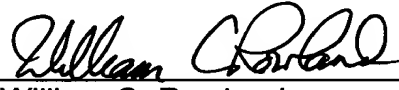
In the event that any additional fees are due with this paper, please charge our Deposit Account No. 02-4800.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date: <u>February 5, 2008</u>   By: _____

William C. Rowland
Registration No. 30,888

P.O. Box 1404
Alexandria, VA 22313-1404
703 836 6620

#1303518-v1